

**PP-104**  
**INVESTIGATION OF ANTIMICROBIAL, ANTIOXIDANT AND ANALGESIC ACTIVITIES ON *SALVIA OFFICINALIS* USING MALE ALBINO MICE**

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This work aims to evaluate the antimicrobial, antioxidant and analgesic effects of methanolic extract of *Salvia officinalis* (Lamiaceae), which is named in Libya as Al-marumia. The antimicrobial activity of *Salvia officinalis* extract was evaluated using cup cut diffusion methods against four microbial strains which are *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Candida albicans*. The antioxidant activity of *Salvia officinalis* extract was evaluated using 2, 2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging method. The analgesic activity of the extract was evaluated using the thermal method of nociception using mice (hot plate method). The extract produced antimicrobial activities against *Staphylococcus aureus* only, while *Pseudomonas aeruginosa* and *Escherichia coli* were not affected by the extract. Also *Salvia officinalis* methanolic extract didn't show any anti-fungal effect against the *Candida albicans*. The antioxidant activity of *Salvia officinalis* extract showed a moderate antioxidant effect through a moderate decrease in the absorption of (DPPH) at 517 nm using quercetin as a standard. The analgesic activity of the extract showed a significant central analgesic effect, which was similar to morphine in the doses used.

**PP-105**  
**THE EFFECT OF SALINE IRRIGATION WATER ON GERMINATION, EMERGENCE, SEED YIELD AND BIOMASS OF BLACK CUMIN**

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A set of experiments were conducted under completely randomized design in the germinator, greenhouse and

field to investigate the effect of salinity on germination, emergence, biological yield, seed yield and plant height of *Nigella arvensis*. Salinity of salt treatments were consist of 0.3 (control) to 39 ds/m (at germination), up to 15 ds/m (emerging stage) and up to 9 ds/m (at seed set) was applied in this study. The effect of salinity on seed germination, seed germination rate, shoot length, root length, seedling weight of seed, root to shoot ratio and seed vigor was significant at  $p<0.01$ . The highest germination rate 94.8% was observed at the salinity of 3 ds/m and no germination was observed at the salinity of 36 ds/m. Salinity from 0.3 (controls) up to 15 ds/m significantly ( $p<0.01$ ) influence on the rate and percentage emergence. The highest germination percentage 52.5% and emergence rate 9.2 seedlings per day were achieved in the control treatment. Seed yield, biomass and plant height were affected significantly ( $p<0.05$ ) against different salinity treatments. Plant performance was by associate salinity percentage with an increase in the salinity level from 0.3 to 9 ds.m<sup>-1</sup>, the average seed yield and biological yield were decreased from 105.5 to 40.2 g m<sup>-2</sup> and 550.2 to 268.6 g m<sup>-2</sup> respectively.

**PP-106**  
**PHENOLIC COMPOSITION OF SOME WILD *SALVIA* SPECIES FROM IRAN**

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*Salvia* L. plants (Lamiaceae) are rich sources of di- and tri-terpenoids, phenolic acids and flavonoids. Among the phenolic acids, caffeic acid derivatives such as rosmarinic acid, salvianolic acids A and salvianolic acid B are also present in *Salvia* extracts. For a long time, many species of *Salvia* have been traditionally used as medicinal herbs and recently a lot of attention has been given to the phenolic components of this genus due to their biological activities. The major purpose of this study was identification and determination of some phenolic acids in leaves and roots of five wild *Salvia* species (*S. officinalis*, *S. nemorosa*, *S. virgata*, *S. aristata* and *S. sclerea*) of Iran. The amounts of the phenolic compounds in the methanolic extracts of leaf and root samples were quantified by HPLC with UV detection (280 nm). Based on our results, the leaves of *S. officinalis* and *S. sclerea* with 14.14±1.48 and 40.27±2.05 mg/g DW were the richest sources of rosmarinic acid and salvianolic acid B, respectively. The highest content of salvianolic acid A